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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,795	02/12/2001	Malcolm F. Ruppert	60,130-1004	6956

7590 08/13/2002

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EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT PAPER NUMBER

3618

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/781,795

Applicant(s)

Ruppert, Jr., et al.

Examiner

Vanaman

Art Unit

3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jun 5, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 23-41, 43-46, and 48-55 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 41 and 43-46 is/are allowed.
- 6) ☒ Claim(s) 23-28, 32, 36-40, and 48 is/are rejected.
- 7) ☒ Claim(s) 29-31, 33-35, and 49-55 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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### **Status of Application**

1. Applicant's amendments, filed 2/8/02 and 6/5/02 have been entered in the application. Claims 23-41, 43-46, 48-55 are pending, claims 42, 47, and 56 having been canceled.

### **Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 23-28, 38 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Dest et al. (FR 2,507,550, cited by applicant). Van Dest et al. teach a driving unit assembly including first and second wheel hubs (3, between tires 1 and gear sets 5), which rotate about a lateral axis of rotation (co-linear with the connection between 19 and 8), first and second upwardly extending electric motors (11) mounted on a common axle housing (23), driving first and second gear sets (13, 14, 15, 18, etc.) including a pinion and ring gear pair (13, 14) both of which are mounted so as to rotate with the sun gear (8) when the wheel hub rotates (through the remaining gear elements 18, 19), a longitudinal motor axis (along motor output shaft 12) being transverse to the lateral rotation axis, each motor longitudinal axis being spaced from the other, and first and second planetary gear sets (ring gear 6, planet gears 7, sun gear 8) incorporated into the wheel hubs (e.g., 2) and driven by the respective first and second gear sets, further including plural gear boxes (3, 10) for housing the first and second gear sets, the motors being mounted to the gear boxes (figure 2), the planetary gears being incorporated into the gear boxes (at 3).

### **Claim Rejections - 35 USC § 103**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 23, 25, 26, 32, 36, 37, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roe (US 3,161,083, cited by applicant). Roe teaches a vehicle drive system

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including a pair of co-linear driving shafts (48) for driving wheels (22RL, 22RR) about a lateral rotation axis, first and second gear sets (enclosed in common gear boxes 30R, 30L mounted to the respective motor pairs by a shaft 40, 44), each wheel being drivable by a pair of electric motors (figure 3), mounted on a common longitudinal axis transverse and perpendicular to the driving rotation axis, each gear set including a pinion (64) and ring (66) set, as well as a planetary gear set (42, 46, 58), at least one of the motors of each motor pair (the rearward '#1' motors) being mounted to extend rearwardly from the lateral axis of rotation. The reference of Roe fails to specifically teach the use of wheel hubs to support the wheels. The provision of a wheel hub for the purpose of allowing a wheel to be rotatably supported on a vehicle is very old and well known, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vehicle wheels of Roe with hubs (driven by the output shafts 48, for example) for the purpose of allowing the vehicle to easily move from one location to another.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roe in view of Van Dest et al. The reference of Roe is discussed above and fails to teach the planetary gear sets as being incorporated into wheel hubs. Van Dest et al. teach a wheel (1) having an electric motor (11) drive, wherein a gear set (e.g., 13, 14, 18, 19) drives a planetary gear set (6, 7, 8) located in the wheel hub. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a planetary gear set, as taught by Van Dest et al., driven by the gear set of Austin as modified by Quartullo, for the purpose of reducing the wheel axle running speed directly at the wheel.

7. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Austin in view of Quartullo and Van Dest et al. Austin teaches a passenger vehicle having a plurality of seats located on higher floor portions and a centrally located aisle located on a lower floor portion, wherein an engine, for driving the vehicle wheels is located higher than the aisle floor. The reference of Austin fails to teach the wheels as being driven by electric motors mounted at a right angle to the wheel rotational axes and driving the wheels through a gearing system.

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Quartullo teaches a vehicle having a body and a pair of wheels, each wheel driven by a motor through a 90 degree angle, the driving force being transmitted through a worm-drive gear set, and wheel axle to wheel hubs, wherein a floor of a vehicle has a lower extent in a central location, and an upper extent, wherein the motors are mounted vertically higher than the central floor portion. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the wheel driving engine of the vehicle of Austin with the individual electric drives taught by Quartullo for the purpose of allowing the driven wheels to be independently suspended, as suggested by Quartullo. The reference of Austin as modified by Quartullo fails to teach the gearing system as driving a planetary gear set.

Van Dest et al. teach a wheel (1) having an electric motor (11) drive, wherein a gear set (e.g., 13, 14, 18, 19) drives a planetary gear set (6, 7, 8) located in the wheel hub. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a planetary gear set, as taught by Van Dest et al., driven by the gear set of Austin as modified by Quartullo, for the purpose of reducing the wheel running speed, and allowing higher speed motors to be employed.

#### **Allowable Subject Matter**

8. Claims 41 and 43-46 are allowed.
9. Claims 29-31, 33-35, 49 and 50-55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **Response to Arguments**

10. Applicant's comments concerning the Terminal Disclaimer, in combination with the disclaimer itself have been considered and are persuasive. Applicant's comment, filed with the Information Disclosure Statement of Jan. 23, 2002 have been noted. Applicant asserts that "None of these items discloses the inventive concepts claimed in the subject application". This is inaccurate and considered to be misleading. As an example, note that the reference to Van Dest,

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et al., cited by applicant in an information disclosure statement where it has been asserted that the references are do not 'disclose the concepts claimed', has been found to anticipate 8 claims of the instant application. The examiner also notes that only half of the pages of the Roe reference (also applied against the claims under 35 USC §103) are included in the copy sent to the Office.

**Conclusion**

11. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 3618.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is (703) 308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

Assistant Commissioner for Patents  
Washington, DC 20231

or faxed to :

(703) 305-3597 or 305-7687 (for formal communications intended for entry;  
informal or draft communications may be faxed to the same number but should be  
clearly labeled "UNOFFICIAL" or "DRAFT")

The Office has also established electronic fax servers for Technology Center 3600 as follows:

703-872-9326 (Official communications)  
703-872-9327 (Official After Final communications)  
703-872-9325 (Customer Service)

**F. VANAMAN**  
**Primary Examiner**  
**Art Unit 3618**

F. Vanaman  
August 8, 2002



8/8/02